

Next Generation Identification (NGI)

**Technical Specifications Document for the
Interstate Photo System Facial Recognition Pilot
(IPSFRP) Project**

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CHANGE DESCRIPTION FORM

Revision	Change Description	Author	Date	Approved By
0.1	Initial Draft		8/6/2010	
0.2	Incorporate Internal Review Comments		9/9/2010	
0.3	All instances of FRISC changed to IPSFRP to reflect pilot naming decision.		09/20/210	
0.4	Additional review comments, minor edits		10/12/10	
0.5	Called out tagged-field/SMTP format for pilot EBTS transactions.		11/8/10	
1.0	Finalize EBTS TOTs and incoming email address. Added clarification for enrollment vs. search image quality recommendations. Augmented section 3, added samples as Appendix 10		11/19/2010	
1.1	Address CJIS comments and updated to use latest CJIS template.		5/12/2011	
1.2	Addressed comments from CRITIC review. Clarified minimum candidate values in section 5.2 and 6.26. Fixed max values for Type 2 fields (2.007, 2.015, 2.073) in Appendix C. Table 5-2, fixed field tag 2.109.		6/30/2011	
1.3	Removed Name data from responses. Section 5.2, 6.4 and Table C-2 were updated. Updated table 5-6 with additional error codes.		10/28/2011	
1.4	Added CJIS disclaimer for SRP responses in Note Field (2.088). Added error codes in table 5-6 to handle strict TOT conformance. Minor formatting errors addressed.		12/9/2011	
2.0	Incorporate UFW/BIP. Modify field number for EVT to eliminate conflict with existing EBTS field 2.109. Align tech spec with AN2011 and EBTS 9.3.	<div style="border: 1px solid black; width: 80px; height: 20px; display: inline-block;"></div> b6 b7C	3/20/2012	

3/20/2012

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1 WHAT IS IPSFRP?

The Interstate Photo System Facial Recognition Pilot (IPSFRP) accepts Facial Recognition Search (FRS) requests and returns a score-ranked list of candidates in the Search Results Biometric (SRB) response, much like the current latent fingerprint search capability. For each candidate in the SRB, the user may request additional photos, if available, from the IPSFRP repository.

To support the IPSFRP project, a repository of criminal facial images will be compiled from existing CJIS biometric repositories, currently the Interstate Identification Index (III). It is important to note that the IPSFRP system is not intended to handle enrollment of photos. Rather, photos will continue to be deposited into the III database as part of the normal ten-print booking process. The III database and the IPSFRP gallery will not be synchronized on a real-time or near real-time basis. Therefore, users should keep in mind that the IPSFRP gallery will generally lag behind the III database of photos by up to 72 hours.

Note: The candidate identities returned from an FRS in the resulting SRB response shall be considered potential candidate matches or investigative leads requiring further verification. Users should not rely solely on IPSFRP search responses as the impetus for any law enforcement action. Instead, search results serve as potential links between submitted images and true identities that must be independently verified.

2 WHO CAN USE IPSFRP?

Only authorized law enforcement agencies may use the IPSFRP search and image retrieval services via the Criminal Justice Information Services (CJIS) Wide Area Network (WAN), and only after the successful completion of a Memorandum of Understanding (MOU) with the CJIS Next Generation Identification Program Office (NGIPO). Agencies with existing Facial Recognition (FR) systems may wish to replicate internal face searches into a parallel search of IPSFRP and then augment the results from their FR system with the IPSFRP search results. Agencies without existing FR systems may employ the government off the shelf (GOTS) Universal Face Workstation (UFW) software to prepare and send face searches to IPSFRP via the CJIS WAN.

NGI is bound by many Federal Bureau of Investigation (FBI) CJIS Division security policies. The IPSFRP project must adhere to these same security policies. All participants in the IPSFRP project are expected to comply with all CJIS security policies related to the dissemination and use of CJIS data.

3 HOW DO I USE IPSFRP?

Upon completion of an agency bandwidth study by the CJIS Division, IPSFRP search requests can be submitted over the CJIS WAN as Multipurpose Internet Mail Extensions (MIME) encoded e-mail attachments via Simple Mail Transfer Protocol (SMTP). IPSFRP search requests should be routed in the same manner as latent fingerprint search requests - through the agency's State Identification Bureau (SIB) or other authorized channeling agency. Responses to IPSFRP search requests will be routed back through the contributor's SIB or other authorized channeling agency, matching the route in which the search was submitted. It is expected that facial search results will be returned in under 15 minutes.

IPSFRP search requests may use an existing or a newly created Originating Agency Identifier (ORI). For reference, agencies typically use an existing ORI when IPSFRP transactions will be sent and received from an existing agency email server (a.k.a. relay server or store & forward server) currently in operation with CJIS, while a new ORI is typically employed if a separate IPSFRP mail server will be stood up to process IPSFRP transactions.

IPSFRP search requests must be sent to the following e-mail address:

[REDACTED] b7E

IPSFRP responses will be sent to an agency provided email address and server (e.g. fbi_face@server_IP). Routing to this email address from IPSFRP is done via a table that associates the agency provided email address and server with the agency ORI used within the user requests (EBTS submissions).

The [REDACTED] server IP address used for routing is sensitive and will be provided after an MOU for IPSFRP participation is completed and signed. **If a new email server will be employed for IPSFRP traffic, a rule must be added to the agency's firewall(s) to allow bi-directional SMTP traffic (port 25) between [REDACTED] and the agency email server.**

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Due to current capabilities of automated face recognition and the nature of the records stored within the CJIS facial image repository, **all search submissions to the IPSFRP system MUST include a single frontal photo of the search subject.¹ Further, face images must be compressed within the search transaction using JPEG (Joint Photographic Experts Group) encoding.** Otherwise, the submission will be rejected and an error message returned to the user.

To improve the accuracy and selectivity of automated face recognition searches, the following subject demographic metadata (Type-2) fields may be used to limit the available gallery for any specific search:

- Height Range
- Weight Range
- Age Range
- Hair Color
- Eye Color

¹ Later versions may support multiple frontal images, angled images and profiles.

- Race
- Sex
- Place of Birth
- Scars Marks Tattoos (SMT)

If any of this metadata is included in the search request, it will be used to filter the gallery. If too much metadata is included, it could result in no results being returned when results could indeed be available (with reduced metadata filtering). For the records contained in the system, not all of the metadata is filled in for each subject, nor can its accuracy be guaranteed. This information, much like the facial images, is pulled from the III files. If a search is submitted with demographic metadata and undesirable results are returned, it is recommended to resubmit the search request with less or no demographic metadata.

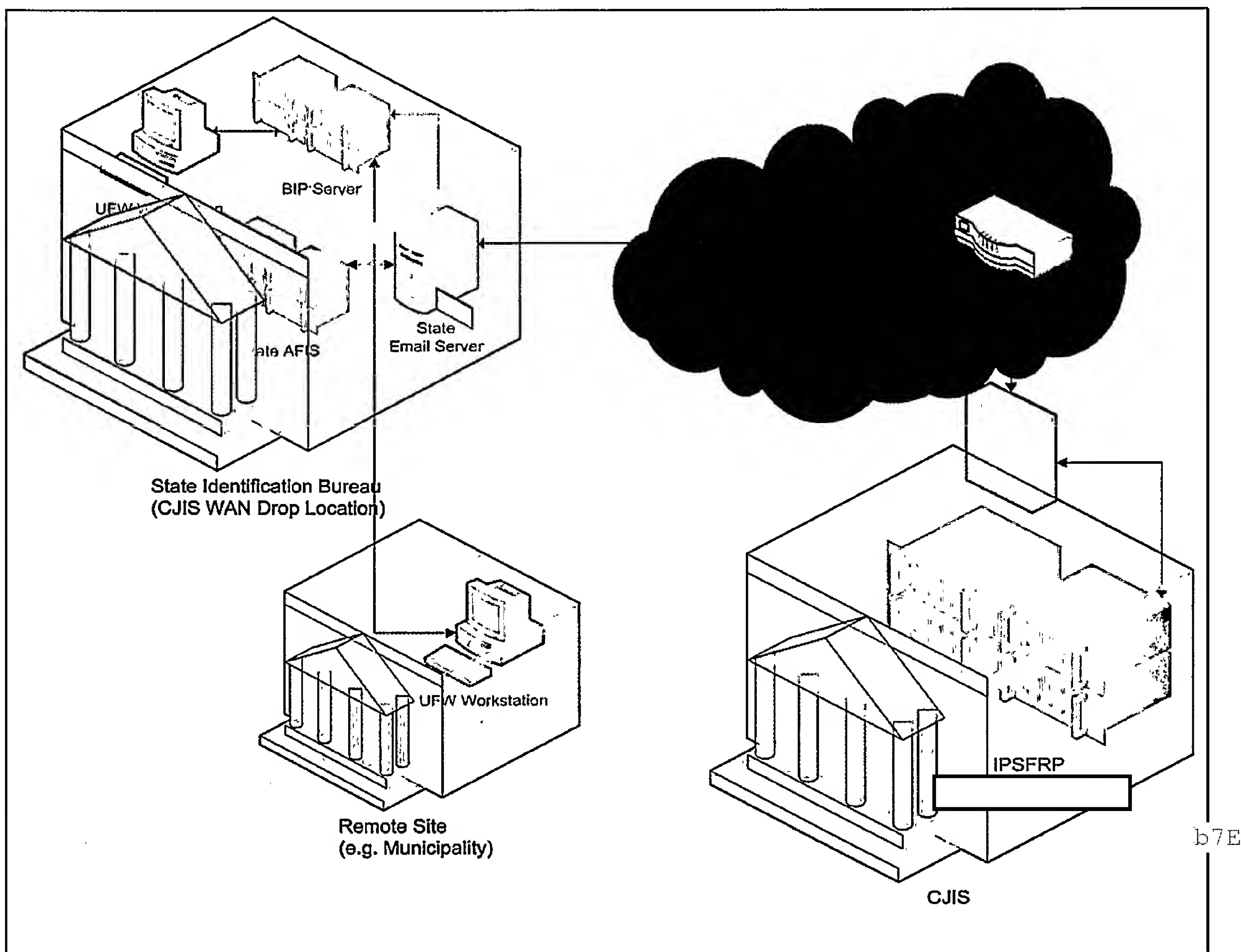
How you employ IPSFRP and what information you need to know to start searching faces depends on whether or not you have an existing FR system at your agency. The following two sub-sections define how to integrate IPSFRP into your current investigative toolset, based on those two scenarios.

3.1 I Do Not Have an Existing FR System

In addition to the server-side matching service, UFW software will be available in fall 2012. This GOTS product will enable law enforcement agencies without their own FR system to submit facial search transactions to IPSFRP from their location, as well as to receive and display the resulting search responses. Upon request, UFW will be provided free of charge to authorized SIBs for distribution to law enforcement agencies within their jurisdiction. However, use of UFW and any associated connectivity to CJIS must be coordinated through the SIB.

The UFW and the Biometric Integration Platform (BIP) will provide the human machine interface with the rest of IPSFRP. Figure 3-1 depicts one example of a physical architecture for deployment of the UFW at an agency that does not have an existing FR system. Other architectures can be supported by the UFW. For example, the BIP server could be hosted on the State email (store and forward) server, depending on the capacity (processing and storage) of the server. Alternately, the BIP server and UFW terminals could be hosted at a remote site with a connection back to the state Email server. More information regarding the installation and configuration of the latest release of the UFW/BIP suite is available upon request.

Figure 3-1



3.1.1 Universal Face Workstation

The UFW is the front-end client used by the examiner to interface with the rest of the system. UFW allows the examiner to open images, create and send EBTS-compliant search transactions, and receive and view search responses. The examiner can also generate image requests, as well as receive and view image retrieval responses. UFW also provides a transaction management server that provides a real-time workload status of all transactions that have been sent or received or are pending operator action.

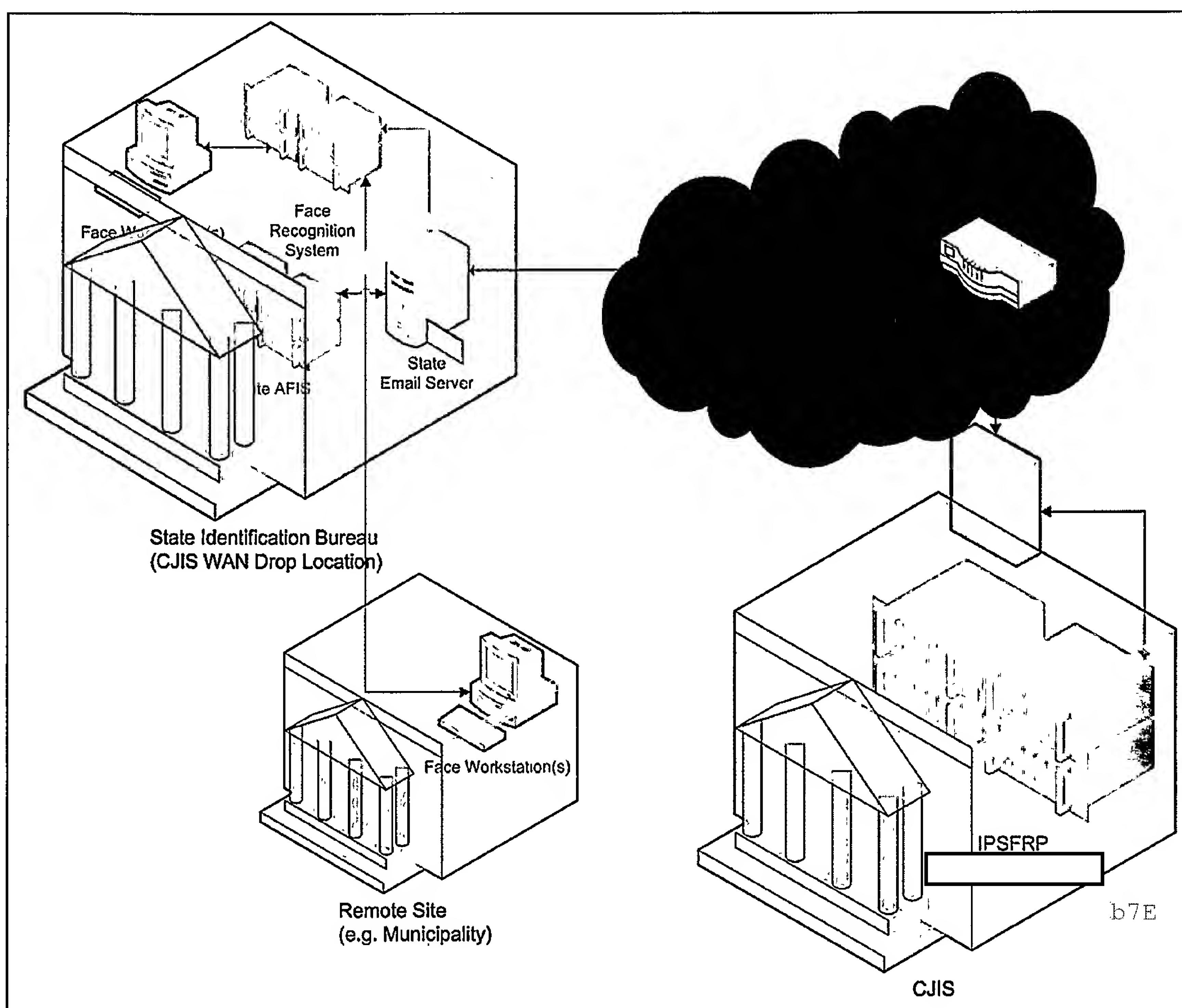
3.1.2 Biometric Integration Platform

The BIP is the server component that encapsulates the critical business functionality of face examination within a protected application server. BIP is designed to enable large scale deployments of UFW (and other biometric/forensic applications) with enterprise grade security, connectivity, and management. The BIP also serves as a point of integration with back-end matching, directory, database, and messaging services. Administration of the BIP is provided via a web management console, which provides full control over security and platform configuration. SIB's will bear the responsibility of housing and administering the BIP for agencies utilizing the UFW/BIP configuration for accessing IPSFRP.

3.2 I Have an Existing FR System

Figure 3-2 depicts the typical architecture for an IPSFRP participant agency that already has an FR system in place. In this scenario, the existing FR system must be modified to send a copy of face searches along to IPSFRP via an email server (existing or new) that is connected to the CJIS WAN. As indicated earlier in the introduction to this section, an email box must be established on the email server that will relay requests and responses to and from the FR system and IPSFRP. Alternately, the FR system could host an email service for communications with IPSFRP, but in either case, the email service must be connected to and able to communicate over the CJIS WAN.

Figure 3-2



4 FBI POINTS OF CONTACT

Table 4-1 lists the CJIS Divisions points of contact for the IPSFRP project.

Table 4-1 FBI Points of Contact

Name	Area	Phone	E-Mail
	Program Management		
	Business/Liaison		
	Universal Face Workstation		
	Transaction Processing/Matching		

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b6
b7C
b7E

APPENDIX A: IPSFRP EBTS TOTS

All IPSFRP project transactions must be CJIS Electronic Biometric Transmission Specification (EBTS) and, by inheritance, ANSI/NIST-ITL 1-2011 compliant. This Appendix describes the CJIS EBTS fields that will be used for each TOT's Type-2 record. Sample transactions are available in Appendix C. Only legacy/non- Extensible Markup Language (XML) format EBTS transactions will be accepted during this pilot. Web services transactions using EBTS XML will be implemented for NGI Increment 4 Full Operating Capacity (FOC).

One goal of the IPSFRP project is to determine the best structure and content for face searches and the information returned in the search response. Therefore, the CJIS EBTS fields used for FR transactions may change throughout the life of the IPSFRP project and may not precisely reflect the final FR interface to NGI at FOC (fall 2014). This document contains modified sections from and additional sections to the CJIS EBTS v9.3. Reference the EBTS v9.3 for information outside of these added/modified sections.

A.1 Facial Recognition Search (FRS) Request

This transaction allows the user to submit a photo and demographic information for searching against photos in the FBI/CJIS repositories for possible candidates. It is important to note that if demographic fields are provided, then the search results will only contain candidates that match the entire set of demographics provided. The IPSFRP project will only accept one image per search request/submission.

The structure of the FRS is as follows:

- 1 Type-1 Header Record
- 1 Type-2 Descriptive Record (see Table A-1)
- 1 Type-10 Facial Image Record

Table A-1 FRS EBTS fields for Type-2 Descriptive Record

TAG-Elem	Max Occurrence	Mandatory/Optional
2.001 LEN	1	Mandatory
2.002 IDC	1	Mandatory
2.006 ATN	1	Optional
2.007 SCO	9	Optional
2.010 CIN	1	Optional
2.011 CIX	1	Optional
2.020 POB	1	Optional
2.023 AGR	1	Optional
2.024 SEX	1	Optional
2.025 RAC	1	Optional
2.026 SMT	10	Optional
2.028 HTR	1	Optional
2.030 WTR	1	Optional
2.031 EYE	1	Optional
2.032 HAI	1	Optional
2.073 CRI	3	Mandatory
2.079 NCR	1	Optional

A.2 Search Results - Biometric (SRB)

This transaction is returned by the FBI in response to a photo investigation search transaction (FRS). The SRB response includes a candidate list of Universal Control Numbers (UCNs) and the corresponding frontal face image of up to the number of candidates specified in the Number of Candidates/Images Returned (2.079 NCR) field of the search message. If there are no candidates available due to demographic filtering and/or match score less than 0, a blank SRB will be returned with NCR = 0. The name field for each UCN/name pair in the response will be blank. As few as 0 and as many as 50 candidates, their match scores, and the matched full frontal face image on file will be included in the response. It is important to note that the same subject may appear on the candidate list multiple times, as the facial repository is an event vice subject based repository. Additionally, the probe image from the corresponding FRS submission will be included as the first image record in the SRB and should not be interpreted as one of the candidate images.

The default response, if NCR was omitted in the corresponding FRS, is to return the matched full frontal photo of the top 20 candidates. Additional photos on file for each candidate may be retrieved through separate Subject Photo Requests (CPRs).

The structure of the SRB is as follows:

- 1 Type-1 Header Record
- 1 Type-2 Descriptive Record (see Table A-2)
- 1..NCR Type-10 Facial Image Records

Table A-2 SRB EBTS fields for Type-2 Descriptive Record

TAG-Elem	Max Occurrence	Mandatory/Optional
2.001-LEN	1	Mandatory
2.002-IDC	1	Mandatory
2.006-ATN	1	Optional
2.007-SCO	9	Optional
2.010-CIN	1	Optional
2.011-CIX	1	Optional
2.064-CAN	50	Mandatory
2.073-CRI	3	Mandatory
2.079-NCR	1	Mandatory
2.088-NOT	1	Optional
2.089-MSD	50	Mandatory
2.2049-EVT	50	Mandatory

A.3 Subject Photo Request (CPR)

This Type of Transaction (TOT) enables users to retrieve a photo set from the FBI repository. Please refer to the EBTS 9.3 for the Type-2 field definitions within the CPR TOT.

A.4 Photo Request Response (PRR)

Each photo request will receive a PRR. The transaction is returned by the FBI to indicate the condition of each request. Please refer to the EBTS 9.3 for the Type-2 field definitions within the PRR TOT. If the PRR response is an error, only the code(s) of the error(s) from Table A-4 will be inserted into the 2.080 EXP field, due to the size limit of 50 characters.

A.5 Biometric Transaction Error Response (ERRB)

The IPSFRP project returns an ERRB transaction back to the submitting agency when a FRS transaction is rejected because a data field(s) does not pass internal editing criteria or when there is a system error. Each reason for rejection will be detailed in the status/message (MSG) field. Up to 11 errors for a transaction can be recorded in the MSG field. MSG will contain an error description relating to the specific discrepancy identified. If the error is related to a field that contains invalid data, the field tag and first 30 characters of the data in the invalid field will be returned.

The types and quantities of logical records required in error messages are as follows:

- 1 Type-1 Header Record
- 1 Type-2 Descriptive Record (see Table A-3)

Table A-3 ERRB EBTS fields for Type-2 Descriptive Record

TAG-Elem	Max Occurrence	Mandatory/Optional
2.001-LEN	1	Mandatory
2.002-IDC	1	Mandatory
2.006-ATN	1	Optional
2.007-SCO	9	Optional
2.010-CIN	1	Optional
2.011-CIX	1	Optional
2.060-MSG	11	Mandatory
2.073-CRI	3	Mandatory

Refer to Appendix M in the latest version of the CJIS EBTS for details about error messages. Table A-4 shows the error messages proposed to be used for the ERRB Transaction. However, these are subject to the EBTS Review cycle and are subject to change.

Table A-4 ERRB Transaction Errors

Code	Error Condition	MDD Error Description	Count	Insert #1	Insert #2	Insert #3
A0001	Unauthorized EBTS Transaction	Requestor is not authorized for transaction type %1.	1	TOT of incoming message		
B0001	Unable to generate template	A template could not be created for the submitted image.	0			
B0002	Invalid Image Type	The submitted image is not an acceptable format.	0			
B0003	Corrupt Image	The submitted image is corrupted	0			
B0007	Service Interruption	The system failed on this transaction due to a service interruption.	0			
E0001	Required element missing	Mandatory element %1 was not supplied in message.	1	Element Name		
E0002	Element failed validation	Element %1, with value of [%2] contains invalid data.	2	Element Name	Element Value	
E0003	Element failed validation	Element %1, with value of [%2] contains invalid data. The data may not comply with the acceptable range of values.	2	Element Name	Element Value	
E0004	EBTS field parse error	EBTS logical record type %1 containing IDC of [%2] in message does not comply with message Contents or Length field values or the record is not parseable.	2	Logical Record Type	IDC value or the value -1 if the named logical record is missing or is a Type-1 record.	
E0005	EBTS field parse error	EBTS field %1 could not be parsed. Check use of separator characters and presence of all required subfields.	1	Field Tag		

E0012	Message Length Inconsistent	The length of the CJIS WAN message is inconsistent with the sum of the lengths of the logical records contained within it.	0			
L0002	Subject does not exist in repository	Subject with identifier %1 does not exist in repository.	1	FNU		
L0151	Photo Not Available	Photo Not Available for the FNU/DOA provided.	0			

The highlighted rows are errors from Appendix M in the CJIS EBTS Specification.

APPENDIX B: DESCRIPTORS & FIELD EDIT SPECIFICATIONS FOR TYPE-2 LOGICAL RECORDS

This is a list of CJIS EBTS fields added to the EBTS 9.3 interface to enable IPSFRP transactions. Refer to Appendix C of the latest version of the CJIS EBTS for a comprehensive list of all CJIS EBTS descriptors and field edit specifications for Type-2 logical records.

B.1 EVT 2.2049 – Arrest Events

This field lists all DOAs for each of the candidates in the SRB. Each list of DOAs is separated by the RS character, while each DOA within a list is separated by a US character. The order of the list corresponds to the rank order of the identities (UCNs) within the candidate list (2.064 CAN) field. The Photo Date (PHD) will likely be substituted for the DOA in NGI Increment 4.

APPENDIX C: SAMPLE FRS/SRB AND CPR/PRR

The tables in this section provide a sample FRS submission and SRB response, and a CPR request and PRR response. Note not all possible optional fields are shown. Further, additional fields may be made mandatory or accepted optionally to increase search accuracy and/or to support analysis of system performance. Shaded cells indicate mandatory fields.

Table C-1 Sample Facial Recognition Search (FRS) (Submission)

Field	Name	Acronym	Occurrence		Example Value
			Min	Max	
Type 1					
1.001	Record Length	LEN	1	1	122
1.002	Version	VER	1	1	0500
1.003	File Content	CNT	3	3	
A	Record Number				1
B	IDC				02
A	Record Number				2
B	IDC				00
A	Record Number				10
B	IDC				01
1.004	Type of Transaction	TOT	1	1	FRS
1.005	Date	DAT	1	1	20101025
1.006	Transaction Priority	PRY	0	1	1
1.007	Destination Agency ID	DAI	1	1	WVMEDS001
1.008	Originating Agency ID	ORI	1	1	CADOJS007
1.009	Transaction Control Number	TCN	1	1	DUMMYTCN_DUMMYTCN
1.013	Domain Name	DOM	1	1	
A	Domain Name	DNM	1	1	NORAM
B	Domain Version Number	DVN	1	1	EBTS 9.3
Type 2					
2.001	Record Length	LEN	1	1	405
2.002	Image/Rec Designator	IDC	1	1	00
2.006	Attention Indicator	ATN	0	1	TEST
2.007	Send Copy To	SCO	0	9	WVMEDS001
2.010	Contributor Case ID Number	CIN	0	1	2<GS>WV12345
2.011	Contributor Case ID Extension	CIX	0	1	5
2.073	Controlling Agency Identifier	CRI	1	3	WVMEDS001
2.079	Number of Candidate Images Returned	NCR	1	1	10
Type 10					
10.001	Logical Record Length	LEN	1	1	40228
10.002	Image Designation Character	IDC	1	1	01
10.003	Image Type	IMT	1	1	FACE
10.004	Source Agency/ORI	SRC	1	1	WVMEDS001
10.005	Photo Date	PHD	1	1	20101025
10.006	Horizontal Line Length	HLL	1	1	960
10.007	Vertical Line Length	VLL	1	1	1280
10.008	Scale Units	SLC	1	1	1
10.009	Horizontal Pixel Scale	HPS	1	1	1
10.010	Vertical Pixel Scale	VPS	1	1	1

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10.011	Compression Algorithm	CGA	1	1	JPEGB
10.012	Color Space	CSP	1	1	RGB
10.013	Subject Acquisition Profile	SAP	1	1	1
10.020	Subject Pose	POS	0	1	F
10.025	Subject Pose Angles	SPA	0	1	
a	Yaw	YAW	0	1	0
b	Pitch	PIT	0	1	0
c	Roll	ROL	0	1	0
d	Yaw Uncertainty	YAWU	0	1	0
e	Pitch Uncertainty	PITU	0	1	0
f	Roll Uncertainty	ROLU	0	1	0
10.029	2D Facial Feature Points	FFP	0	88	<eye positions if marked>
a	Feature Point Type	FPT	1	1	1
B	Feature Point Code	FPC	1	1	12.1
C	X Coordinate	HCX	1	1	343
D	Y Coordinate	HCY	1	1	409
10.999	Image Data	DATA	1	1	

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b7C

Table C-2 Sample Search Results - Biometric (SRB) (Response)

Field	Name	Acronym	Occurrence		Example Data
			Min	Max	
Type 1					
1.001	Record Length	LEN	1	1	122
1.002	Version	VER	1	1	0201
1.003	File Content	CNT	2	2+NCR	
a	Record Number				1
b	IDC				02
a	Record Number				2
b	IDC				00
a	Record Number				10
b	IDC				01
1.004	Type of Transaction	TOT	1	1	SRB
1.005	Date	DAT	1	1	20101025
1.006	Transaction Priority	PRY	0	1	1
1.007	Destination Agency ID	DAI	1	1	WVMEDS001
1.008	Originating Agency ID	ORI	1	1	WVMEDS001
1.009	Transaction Control Number	TCN	1	1	DUMMYTCN_DUMMYTCN
1.010	Transaction Control Reference	TCR	1	1	DUMMYTCR_DUMMYTCR
1.013	Domain Name	DOM	1	1	
A	Domain Name	DNM	1	1	NORAM
B	Domain Version Number	DVN	1	1	EBTS 9.3
Type 2					
2.001	Record Length	LEN	1	1	405
2.002	Image/Rec Designator	IDC	1	1	00
2.006	Attention Indicator	ATN	0	1	TEST
2.007	Send Copy To	SCO	0	9	WVMEDS001
2.010	Contributor Case ID Number	CIN	0	1	
a	Contributor Case Prefix	CIN_PRE	0		1963
b	Contributor Case ID	CIN_ID	0		BRT715
2.011	Contributor Case ID Extension	CIX	0	1	999
2.064	Candidate List	CAN	0	NCR	
a	Universal Control Number				123456789
b	Name				<Will be blank>
2.073	Controlling Agency Identifier	CRI	1	3	WVMEDS001
2.079	Number of Images Returned	NCR	1	1	20
2.088	Note Field	NOT	1	1	Information derived from FBI Interstate Photo System Facial Recognition Pilot (IPSFRP) search requests and resulting responses are to be used only as investigative leads...
2.089	Match Score	MSC	0	NCR	5
2.2049	Arrest Events	EVT	0	NCR	
Type 10 (only the first of 20 candidates shown)					
10.001	Logical Record Length	LEN	1	1	40228
10.002	Image Designation Character	IDC	1	1	02

IPSFRP Tech. Spec.

10.003	Image Type	IMT	1	1	FACE
10.004	Source Agency/ORI	SRC	1	1	WVMEDS001
10.005	Photo Date	PHD	1	1	20101025
10.006	Horizontal Line Length	HLL	0	1	480
10.007	Vertical Line Length	VLL	0	1	600
10.008	Scale Units	SLC	0	1	1
10.009	Horizontal Pixel Scale	HPS	0	1	1
10.010	Vertical Pixel Scale	VPS	0	1	1
10.011	Compression Algorithm	CGA	1	1	JPEGB
10.012	Color Space	CSP	0	1	SRGB
10.013	Subject Acquisition Profile	SAP	1	1	1
10.020	Subject Pose	POS	0	1	F
10.999	Image Data	DATA	1	1	

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b7C

Table C-3 Subject Photo Request (CPR)

Field	Name	Acronym	Occurrence		Example Value
			Min	Max	
Type 1					
1.001	Record Length	LEN	1	1	122
1.002	Version	VER	1	1	0201
1.003	File Content	CNT	2	2	
a	Record Number				1
b	IDC				01
a	Record Number				2
b	IDC				00
1.004	Type of Transaction	TOT	1	1	CPR
1.005	Date	DAT	1	1	20101025
1.006	Transaction Priority	PRY	0	1	1
1.007	Destination Agency ID	DAI	1	1	WVMEDS001
1.008	Originating Agency ID	ORI	1	1	WVMEDS001
1.009	Transaction Control Number	TCN	1	1	DUMMYTCN_DUMMYTCN
1.013	Domain Name	DOM	1	1	
A	Domain Name	DNM	1	1	NORAM
B	Domain Version Number	DVN	1	1	EBTS 9.3
Type 2					
2.001	Record Length	LEN	1	1	405
2.002	Image/Rec Designator	IDC	1	1	00
2.006	Attention Indicator	ATN	0	1	ATN_TO
2.007	Send Copy To	SCO	0	9	WVMEDS001
2.014	FBI Number	FBI	1	1	123456789
2.045	Date of Arrest	DOA	1	1	19980215
2.046	Date of Arrest – Suffix	DOS	0	1	L
2.073	Controlling Agency Identifier	CRI	1	3	WVMEDS001

Table C-4 Photo Request Response (PRR)

Field	Name	Acronym	Occurrence		Value
			Min	Max	
Type 1					
1.001	Record Length	LEN	1	1	122
1.002	Version	VER	1	1	0201
1.003	File Content	CNT	2	2 + N	(N = Number of photos for event)
a	Record Number				1
b	IDC				02
a	Record Number				2
b	IDC				00
a	Record Number				10
b	IDC				01
1.004	Type of Transaction	TOT	1	1	PRR
1.005	Date	DAT	1	1	20101025
1.006	Transaction Priority	PRY	0	1	1
1.007	Destination Agency ID	DAI	1	1	WVMEDS001
1.008	Originating Agency ID	ORI	1	1	WVMEDS001
1.009	Transaction Control Number	TCN	1	1	DUMMYTCN_DUMMYTCN
1.010	Transaction Control Reference	TCR	1	1	DUMMYTCR_DUMMYTCR
1.013	Domain Name	DOM	1	1	
A	Domain Name	DNM	1	1	NORAM
B	Domain Version Number	DVN	1	1	EBTS 9.3
Type 2					
2.001	Record Length	LEN	1	1	405
2.002	Image/Rec Designator	IDC	1	1	00
2.006	Attention Indicator	ATN	0	1	TEST
2.007	Send Copy To	SCO	0	9	WVMEDS001
2.014	FBI Number	FBI	1	1	123456789
2.045	Date of Arrest	DOA	1	1	19980215
2.046	Date of Arrest - Suffix	DOS	0	1	L
2.073	Controlling Agency Identifier	CRI	1	3	WVMEDS001
2.080	Response Explanation	EXP	0	1	
2.082	Response Code	REC	1	1	Y
Type 10 (only the first of N is shown)					
10.001	Logical Record Length	LEN	1	1	40228
10.002	Image Designation Character	IDC	1	1	01
10.003	Image Type	IMT	1	1	FACE
10.004	Source Agency/ORI	SRC	1	1	WVMEDS001
10.005	Photo Date	PHD	1	1	20101025
10.006	Horizontal Line Length	HLL	1	1	768
10.007	Vertical Line Length	VLL	1	1	960
10.008	Scale Units	SLC	1	1	0
10.009	Horizontal Pixel Scale	HPS	1	1	1
10.010	Vertical Pixel Scale	VPS	1	1	1
10.011	Compression Algorithm	CGA	1	1	JPEGB
10.012	Color Space	CSP	1	1	SRGB
10.013	Subject Acquisition Profile	SAP	1	1	20

10.020	Subject Pose	POS	0	1	RP	
10.999	Image data	DATA	1	1		b6 b7C

Table C-5 Biometric Transaction Error Response (ERRB)

Field	Name	Acronym	Occurrence		Value
			Min	Max	
Type 1					
1.001	Record Length	LEN	1	1	122
1.002	Version	VER	1	1	0201
1.003	File Content	CNT	2	2	
a	Record Number				1
b	IDC				01
a	Record Number				2
b	IDC				00
1.004	Type of Transaction	TOT	1	1	ERRB
1.005	Date	DAT	1	1	20101025
1.007	Destination Agency ID	DAI	1	1	WVMEDS001
1.008	Originating Agency ID	ORI	1	1	IPSFRP001
1.009	Transaction Control Number	TCN	1	1	DUMMYTCN_DUMMYTCN
1.010	Transaction Control Reference	TCR	1	1	DUMMYTCR_DUMMYTCR
1.013	Domain Name	DOM	1	1	
A	Domain Name	DNM	1	1	NORAM
B	Domain Version Number	DVN	1	1	EBTS 9.3
Type 2					
2.001	Record Length	LEN	1	1	405
2.002	Image/Rec Designator	IDC	1	1	00
2.006	Attention Indicator	ATN	0	1	TEST
2.007	Send Copy To	SCO	0	9	WVMEDS001
2.010	Contributor Case ID Number	CIN	0	1	
a	Contributor Case Prefix	CIN_PRE	0		1963
b	Contributor Case ID	CIN_ID	0		BRT715
2.011	Contributor Case ID Extension	CIX	0	1	999
2.060	Status/Error Message	MSG	1	11	Unable to Generate Template
2.073	Controlling Agency Identifier	CRI	1	3	WVMEDS001

APPENDIX D: ACRONYMS

List of acronyms used within this document.

AGR	Age Range
AKA	Aliases
ANS	Alphanumeric-special
ATN	Attention Indicator
BIP	Biometric Integration Platform
CAN	Candidate List
CIN	Contributor Case Identifier Number
CIX	Contributor Case Identifier Extension
CJIS	Criminal Justice Information Services
CPR	Subject Photo Request
CRI	Controlling Agency Identifier
CTZ	Country of Citizenship
DOA	Date of Arrest
DOB	Date of Birth
DOS	Date of Arrest
EAD	Employer and Address
EBTS	Electronic Biometric Transmission Specification
ERRB	Biometric Transaction Error Response
EVT	Arrest Events
EXP	Response Explanation
EYE	Eye Color
FBI	Federal Bureau of Investigation
FNU	FBI Number
FOC	Full Operating Capacity
FR	Facial Recognition
FRS	Facial Recognition Search
GOTS	Government Off-The-Shelf
HAI	Hair Color
HTR	Height Range

IPSFRP Tech. Spec.

IDC	Image Designation Character
III	Interstate Identification Index
IMA	Image Capture Equipment
IPSFRP	Interstate Photo System Facial Recognition Pilot
JPEG	Joint Photographic Experts Group
LEN	Logical Record Length
MAK	Make (Image Capture Device)
MIME	Multipurpose Internet Mail Extensions
MNU	Miscellaneous Identification Number
MODL	Model (Image Capture Device)
MOU	Memorandum of Understanding
MSC	Match Score
MSG	Status Error Message
NAM	Name
NCR	Number of Candidates/Images Returned
NGI	Next Generation Identification
NGIPO	Next Generation Identification Program Office
NIST	National Institute of Standards and Technology
NOT	Notes
OCA	Originating Agency Case Number
OCP	Occupation
ORI	Originating Agency Identifier
PHD	Photo Date
POB	Place of Birth
PRR	Photo Request Response
RAC	Race
REC	Response Code
RES	Residence
SAP	Subject Acquisition Profile
SCO	Send Copy To
SERNO	Serial Number (Image Capture Device)
SIB	State Information Bureau
SID	State Identification Number

IPSFRP Tech. Spec.

SMT	Scars Marks Tattoos
SMTP	Simple Mail Transfer Protocol
SOC	Social Security Account Number
SRB	Search Results - Biometric
TOT	Type of Transaction
UCN	Universal Control Number
UFW	Universal Face Workstation
WAN	Wide Area Network
WTR	Weight Range
XML	Extensible Markup Language

APPENDIX E: REFERENCES

1. NIST Special Publication 500-290 Data Format for the Interchange of Fingerprint, Facial & Other Biometric Information v2011. Downloadable from http://www.nist.gov/itl/iad/ig/ansi_standard.cfm.
2. FBI EBTS v9.3. Downloadable from https://www.fbibiospecs.org/docs/EBTS_v9_3_Final%2012_07_11_clean.pdf.